

Serial No. 10/606,721

Docket No. NG(ST)6445

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LISTING OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A communication device comprising:
a signal modifier that modifies an input signal to reduce peak signals values associated with the input signal and provides a peak reduced input signal, the signal modifier comprising a signal shaper that shapes a modulation constellation of the input signal to reduce the peak values associated with the input signal; and
a power amplifier that amplifies the peak reduced input signal and an instruction signal associated with modifications of the input signal by the signal modifier, the instruction signal being employed by a receiver to reconstruct the input signal to its original form prior to modification.
2. (Cancelled)
3. (Original) The communication device of claim 1, further comprising a signal combiner that combines the instruction signal in one of a parallel and a sequential relationship with the peak reduced input signal.
4. (Original) The communication device of claim 1, the instruction signal being an instruction code that is modulated into the peak reduced input signal.
5. (Currently Amended) The communication device of claim 1, the input signal conforming to one of Wideband Code Division Multiple Access (WCDMA), Orthogonal Frequency Division Multiplexing (OFDM), Global Standard for Mobile Communication (GSM), Code Division Multiple Access (CDMA 2000) and Time Division Multiple Access (TDMA).

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6. (Original) The communication device of claim 1, further comprising a digital-to-analog converter (DAC) that converts the peak reduced input signal and the instruction signal from the digital domain to the analog domain directly to radio transmission frequencies, and provides an analog peak reduced input signal and an analog instruction signal to the power amplifier for amplification.

7-8. (Cancelled)

9. (Currently Amended) A communication device comprising:

a detector/ decoder that receives a transmission signal that contains a modified input signal and an instruction signal from a transmitter, the instruction signal being associated with modifications a scale factor of the input signal; and

a reconstructor that reconstructs the modified input signal to its original form prior to modification employing information associated with the instruction signal.

10. (Original) The communication device of claim 9, further comprising a signal separator that separates the modified input signal from the instruction signal and an instruction resolver that resolves the instruction signal to provide information to the reconstructor to facilitate reconstruction of the modified input signal to its original form prior to modification.

11. (Original) The communication device of claim 9, further comprising a signal corrector that corrects the modified input signal based on information associated with the instruction signal.

12. (Original) A communication device comprising:

a signal splitter that decomposes an input signal into a plurality of replica signals, each of the plurality of replica signals having a maximum peak value below the maximum peak value of the input signal;

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a signal combiner that sequential orders the plurality of replica signals for transmission;
and
a power amplifier that amplifies the sequentially ordered plurality of replica signals to provide a transmission signal.

13. (Original) The transmitter of claim 12, the signal combiner combines an instruction signal with the plurality of replica signals, the instruction signal informs a receiver of at least one of the number of replica signals and scaling associated with the replica signals.

14. (Currently Amended) A communication system comprising:

means for modifying an input signal to provide a modified input ~~signals~~ signal having reduced peak ~~signals~~ values;

means for generating an instruction signal associated with reconstructing the input signal to its original form prior to modification;

means for transmitting a transmission signal that includes the modified input signal and the instruction signal transmitted in a parallel relationship, such that the instruction signal is transmitted concurrently with the modified input signal;

means for receiving the transmission signal; and

means for reconstructing the input signal to its original form from the modified input signal prior to modification employing the instruction signal that was transmitted in the parallel relationship with the modified input signal.

15. (Original) The system of claim 14, further comprising means for combining the modified input signal and the instruction signal into the transmission signal.

16. (Currently Amended) The system of claim 14, the means for modifying comprising means for decomposing the input signal into a plurality of replica signals, each having a maximum peak

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signal value below the maximum peak signal value of the input signal, and means for sequentially ordering the plurality of replica signals into a transmission signal.

17. (Currently Amended) A method of transmitting a signal in a communication system comprising:

- modifying an input signal to reduce peak signals values associated with the input signal;
- generating an instruction signal ~~or code~~ associated with information relating to the peak reduction of the input signal;
- combining the modified input signal and the instruction signal ~~or code~~ into a transmission signal in a sequential relationship, such that the instruction signal is transmitted prior to the modified input signal;
- converting the transmission signal from the digital domain to the analog domain;
- amplifying the transmission signal; and
- transmitting the transmission signal.

18. (Cancelled)

19. (Currently Amended) The method of claim 17, further comprising separating the modified input signal from the instruction signal ~~or code~~ and reconstructing the modified input signal to its original form prior to peak reduction based on information associated with the instruction signal or code.

20. (Currently Amended) A method of transmitting a signal in a communication system comprising:

- modifying an input signal into a plurality of replica signals, each of the plurality of replica signal signals having a peak signal value below the maximum peak signal value of the input signal;
- sequentially ordering the plurality of replica signals into a transmission signal;

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converting the transmission signal from the digital domain to the analog domain;
amplifying the transmission signal; and
transmitting the transmission signal.

21. (Currently Amended) The method of claim 20, further comprising reconstructing the plurality of replica signals into the input signal in its original form prior to modification.

22. (New) A communication system comprising:

a first communication device comprising:

a signal modifier configured to receive an input signal and to modify the input signal to reduce peak values associated with the input signal; and

a transmitter configured to transmit the modified input signal;

the communication system also comprising:

a second communication device comprising:

a receiver configured to receive the transmitted modified input signal; and

a reconstructor configured to reconstruct the modified input signal to its original form prior to modification employing modification information associated with the modifications of the input signal, the modification information residing at the second communication device prior to the receiver receiving the transmitted modified input signal.

23. (New) The communication system of claim 22, wherein the modification information comprises a scale factor associated with reducing peak values.

24. (New) The communication device of claim 1, wherein the modifications of the input signal comprise scaling the input signal to reduce the peak values associated with the input signal.

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25. (New) The communication device of claim 3, wherein the parallel relationship comprises the instruction signal associated with the peak reduced input signal being transmitted concurrently with the peak reduced input signal.

26. (New) The communication device of claim 3, wherein the sequential relationship comprises the instruction signal associated with the peak reduced input signal being transmitted prior to the peak reduced input signal.

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